

Patent claims

1. A card holding device (1) having at least one guide (42a, 42b) and having a clamping unit (3) with at least one first clamping element (4), which clamping unit (3) clamps a card (5), which is to be held and has two mutually opposite flat faces (6, 7), on one flat face (6) in a manner controlled by the at least one guide (42a, 42b) when the clamping unit (3) moves in relation to the at least one guide (42a, 42b), characterized in that the clamping unit (3) has at least one first elastic element (8) with a first region (9) and a second region (10), which element is guided indirectly or directly at the at least first region (9) by means of the at least one guide (42a, 42b), and clamps the card (5) indirectly or directly by means of the at least one second region (10).
2. The card holding device (1) as claimed in claim 1, characterized in that the first elastic element (8) is part of the first clamping element (11) and is guided with a first region (9) by means of the at least one guide (42a, 42b) and, by interacting with the first clamping element (4), clamps the card (5) by means of a second region (10).
3. The card holding device (1) as claimed in claim 1, characterized in that the clamping unit (3) has at least one second clamping element (11), the second region (10) of the elastic element (8) touches the first clamping element (4) and, during the clamping process, presses against the card (5) in such a way that the first clamping element (4) and the second clamping element (11) clamp a card (5), which is to be held, on the two opposite flat faces (6, 7).
4. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the clamping unit (3) clamps the card (5) in a manner controlled by the at least

one guide (42a, 42b) when the clamping unit (3) moves in an inward direction (24) of the card holding device (1).

5. The card holding device (1) as claimed in at least one of  
5 the preceding claims, characterized in that the elastic element  
is a leaf spring (12).

10. The card holding device (1) as claimed in claim 5,  
characterized in that one end of the leaf spring (12) is  
rotatably mounted in a rotation axis (13), the first region  
(9), at which the leaf spring (12) is guided by means of the at  
least one guide (42a, 42b), is arranged at the opposite end,  
and the second region (10) is arranged close to the rotation  
axis (13).

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7. The card holding device (1) as claimed in claim 6,  
characterized in that the leaf spring (12) has, in the second  
region (10), a bend (14) which faces the card (5) and runs in  
the direction of the bending moment on the leaf spring (12).

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8. The card holding device (1) as claimed in at least one of  
the preceding claims, characterized in that at least one  
clamping element (4) can be lowered onto the card (5), which is  
25 to be held, in a substantially rotatory manner, and the card  
(5) can be clamped in this way.

9. The card holding device (1) as claimed in at least one of  
the preceding claims, characterized in that the card (5), which  
is to be held, can be clamped in the manner of tongs by means  
30 of the clamping elements (4, 11).

10. The card holding device (1) as claimed in at least one of  
the preceding claims, characterized in that at least one  
clamping element (4) can be lowered onto the card (5), which is

to be held, in a substantially translatory manner, and the card (5) can be clamped in this way.

5 11. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that at least one clamping element (4) is mounted so as to rotate about a rotation axis (13).

10 12. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the card holding device (1) has two guides (42a, 42b) which are located at the side of a card holding shaft (15), the elastic element (8) extends substantially over the width of the card holding shaft (15), the elastic element (8) has at least two guide elements 15 (35a, 35b) which are arranged at the side in the first region (9), and the elastic element (8) is respectively guided by means of a respective guide element (35a, 35b) on the guides (42a, 42b) which are arranged at the side.

20 13. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the guide (42a, 42b) is formed in such a way that the clamping force on the card (5) initially increases when the card (5) moves in the inward direction (24).

25 14. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the card holding device (1) has an electric motor drive, and the inward movement of the card (5) can be driven at least partly by means of the 30 drive.

15. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the card (5) can be completely drawn into the card holding device (1).

16. The card holding device (1) as claimed in claim 15, characterized in that the card holding device (1) has an insertion opening and a closure element, and the insertion opening can be closed by means of the closure element.

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17. The card holding device (1) as claimed in claim 16, characterized in that the card holding device (1) has at least one locking unit, and the closure element can be locked in a closed position by means of a locking unit.

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18. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that a slip clutch is arranged between the drive and the clamping unit (3).

15 19. The card holding device (1) as claimed in at least one of the preceding claims, characterized in that the clamping unit (3) is at least partly provided with friction linings in regions which touch and clamp the card (5).

20 20. A method for holding a card (5) in a card holding device, in particular in a card holding device (1) as claimed in at least one of the preceding claims, characterized in that during a first period of movement the card (5) is first of all manually inserted through an insertion opening and at a first 25 end position reaches a stop (34) of a clamping unit (3), during a second period of movement the clamping unit (3) is manually pushed in the inward direction (24) by means of the card (5) and a guide (42a, 42b) presses a second region (10) of an elastic element (8), which is guided indirectly or directly by 30 means of the guide (42a, 42b) at a first region (9), indirectly or directly against the card (5), and a sensor registers the end of the second period of movement, and at the beginning of a third period of movement the sensor initiates activation of a drive which transports the clamping unit (3) in an inward 35 direction (24).

21. A method for holding a card (5) in a card holding device, in particular in a card holding device (1) as claimed in at least one of the preceding claims, characterized in that during 5 a first period of movement the card (5) is first of all manually inserted into an insertion opening and registered by a sensor at a first end position, at the beginning of a second period of movement the sensor initiates activation of a drive which transports the clamping unit (3) in an inward direction 10 (24) while a guide (42a, 42b) presses a second region (10) of an elastic element (8), which is guided indirectly or directly by means of the guide (42a, 42b) at a first region (9), indirectly or directly against the card (5).

15 22. A method for holding a card (5) in a card holding device, in particular in a card holding device (1) as claimed in at least one of the preceding claims, characterized in that during a first period of movement the card (5) is first of all manually inserted into an insertion opening and registered by a 20 sensor at a first end position, a guide (42a, 42b) can be moved in an inward direction (24) and the sensor initiates activation of a drive which moves the guide (42a, 42b) in the inward direction, and a clamping unit (3) clamps the card (5) by the 25 guide (42a, 42b) pressing a second region (10) of an elastic element (8), which is indirectly or directly guided at a first region (9) by means of the guide (42a, 42b), indirectly or directly against the card (5), and during a third period of movement the clamping unit (3) transports the card (5) in the inward direction (24).

30 23. The method as claimed in at least one of claims 21 or 22, characterized in that during a fourth period of movement the clamping action on the card (5) is released and the card (5) is finely positioned in relation to a contact set.

24. The method as claimed in claim 23, characterized in that the card (5) is pressed in the inward direction (24) against a housing-end stop of the end position by means of a fine-positioning element after the clamping action on the input-end 5 end face or on the input-end corners of the card (5) is released.